PROPOSED PLAN OF REMEDIAL ACTION

Kaneka Delaware Corporation
Delaware City, DE

DNREC Project No. DE-1292

This proposed plan of remedial action (proposed plan) presents the Department of Natural Resources and Environmental Control's (DNREC's) preferred cleanup alternative for the remediation at Kaneka of Delaware Corporation (site). For site-related reports and more information, please see the public participation section of this document.

The purpose of the proposed plan is to provide specific information about the soil contamination and the cleanup alternatives DNREC has considered. In addition, as described in Section 12 of the Delaware Regulations Governing Hazardous Substance Cleanup (Regulations), DNREC will provide notice to the public and an opportunity for the public to comment on the proposed plan. At the comment period's conclusion, DNREC will review and consider all of the comments received and then will issue a final plan of remedial action (final plan). The final plan shall designate the selected remedy, if required, for the site. All investigations of the site, the proposed plan, comments received from the public, DNREC's responses to the comments, and the final plan will constitute the Remedial Decision Record.

This proposed plan summarizes the 2003 Remedial Investigation /Feasibility Study (RI/FS) Study and the administrative record file upon which this proposed plan is based. Copies of the sit-related documents can be obtained or viewed at locations listed at the end of this document.

DNREC's proposed remedy is preliminary and a final decision will not be made until all of the comments are considered. The final remedy selected could differ from the proposed remedy based on DNREC's responses to comments.

INTRODUCTION

Kaneka Delaware Corporation (KDC) has owned the Kaneka Delaware site since 1996, and operated as a manufacturer of polyvinyl chloride (PVC). The site is located at 1685 River Road (Delaware Route 9), Delaware City, Delaware (see attached site location map). The site consists of approximately 24 acres of land. KDC plans to decommission the Delaware plant by the end of the 2003 fiscal year, and in order to accomplish this, has entered into the Department of Natural Resources and Environmental Control - Site Investigation and Restoration Branch's (DNREC-SIRB's) Voluntary Cleanup Program (VCP) to conduct a remedial investigation (RI) of the property. The RI results indicated that the site has limited areas of contamination. KDC has agreed to remediate the site as listed in this proposed plan.

SITE DESRIPTION AND HISTORY

The site has been an active industrial site since the mid-1960s and contains office buildings, chemical

storage and process areas, a wastewater treatment plant, roads, railroad tracks, and parking lots and is surrounded by a chain link fence. Access to the property is gained via two primary entrances that are monitored by a guard house. The facility is classified as a Resource Conservation and Recovery Act (RCRA) small quantity generator of hazardous waste.

INVESTIGATION RESULTS

The investigation results indicated that the majority of the 51 individual sample locations showed little contamination at the site. A few soil sample results were above the Uniform Risk-Based Standards (URS) for a restricted use (i.e., commercial/industrial). The URS are guidance values against which DNREC evaluates remediation of the contamination. The contaminants of concern included tetrachloroethylene (PCE), phthalates and polynuclear aromatic hydrocarbons (PAHs). The results showed that there are three areas of concern: 1) soils impacted with PCE located in the area south and east of the Utilities Building (near the center of the site), 2) phthalate-impacted soils within the containment area of the former plasticizer above-ground storage tanks (ASTs) near the west fence line of the property, and 3) soil/sediment impacted by contaminants located in the North Ditch. (see attachment). In addition, the groundwater is contaminated with PCE. The plume of PCE has not migrated off-site and the plume is showing chemical compounds associated with degradation of the PCE, indicating that the PCE is degrading through natural attenuation of the groundwater at the site.

REMEDIAL ACTION OBJECTIVES

The objectives of this remedial action include the following qualitative objectives as determined to be appropriate for the site:

- Prevent exposure to impacted media;
- Minimize potential exposure to site contaminants of concern for construction workers at the site; and
- Prevent environmental impacts, specifically to the Red Lion Creek and the Delaware River, due to impacted media at the site.

These objectives are consistent with the current use of the site as an industrial and/or commercial use in a rural setting, New Castle County zoning policies, state regulations governing water supply and worker health and safety.

Based on the qualitative objectives, the quantitative objectives are:

1. Prevent human exposure to soils and groundwater contaminated by PCE and phthalates, which were found to be at concentrations above their respective restricted-use URS values.
2. Prevent contact with groundwater contaminated with PCE.
3. Prevent discharge to surface water and sediment of contaminants into the Delaware River above Delaware Surface Water Quality Standards.

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Based on DNREC's evaluation of the site information and the above remedial action objectives, several alternatives were evaluated to include: no action; capping the entire site; and soil removal of all top soil. It

was determined based on the limited contamination present at the site, that a combination of the alternatives would be implemented as described below:

1. Excavate, remove and properly dispose of phthalate-impacted soil within the containment area of the former plasticizer ASTS and replace with a fabric liner and a minimum of two (2) feet of clean fill.
2. Excavate, remove and properly dispose of PCE-impacted soil in the area south and east of the Utilities Building (center of the plant area).
3. Install a liner in the North Ditch area to prevent direct contact exposure to and migration of existing contaminated sediments.
4. Maintain the existing asphalt, concrete and buildings as impermeable covers.
5. Placement of a groundwater management zone (GMZ) at the site. The GMZ is an internal DNREC document restricting the use of groundwater at the site.
6. Placement of a deed restriction on the property within ninety (90) days following DNREC's adoption of the final plan : a) prohibiting current and future residential use of the property; b) prohibiting any digging, drilling, excavating, grading, constructing, earth moving, or any other land disturbing activities on the property without the prior written approval of the DNREC; c) requiring written approval from DNREC prior to any repair, renovation or demolition of the existing paved surfaces and buildings pursuant to the remedy for the site; and d) prohibiting the installation of any water well on, or use of groundwater at, the site without the prior written approval of DNREC, as well as noting that the site is located within a GMZ.
7. Prepare and implement a DNREC-approved Operation & Maintenance plan which outlines the groundwater monitoring requirements and maintenance of the structures, and the concrete/asphalt and soil caps pursuant to the remedy. Under this plan, groundwater will be monitored for a period of 12 quarters (3 years).

Note that items 1 through 3 are currently being completed as interim actions at the site.

PUBLIC PARTICIPATION
The Department is actively soliciting written public comments and suggestions on the proposed plan of remedial action. The comment period begins November 19, 2003, and ends at the close of business (4:30 p.m.) December 9, 2003.
If you have any questions or concerns regarding the Kaneka site, or if you would like to review the reports or other information regarding the site, please contact the project manager, Lynn Krueger, 391 Lukens Drive, New Castle, Delaware 19720 or at 302.395.2600.

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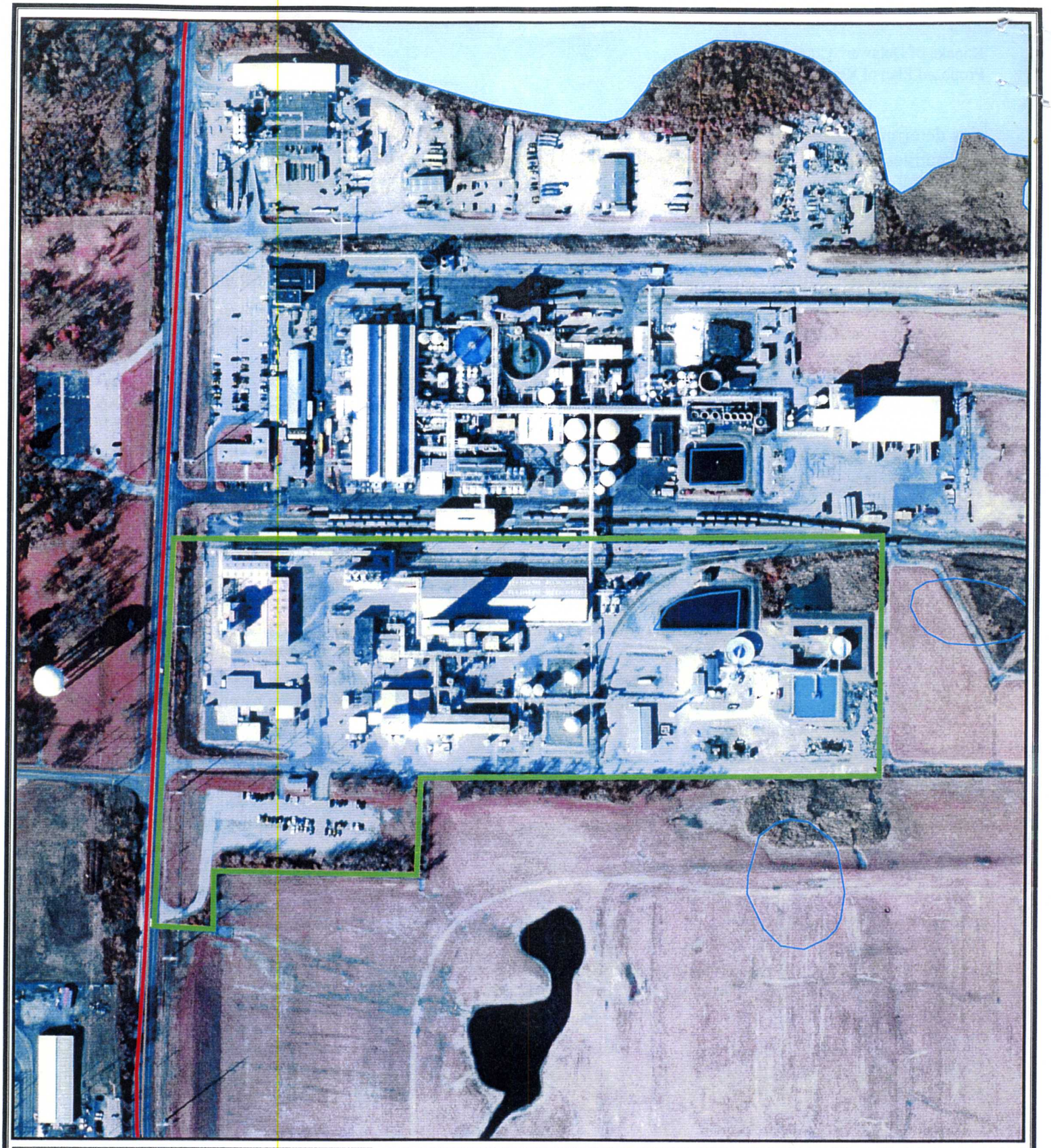

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Miles

0 1:3,600 1 inch equals 300 feet 0.1

G/LMK/KANEKA/ATTACHMENT1

SITE INVESTIGATION &
RESTORATION BRANCH
391 LUKENS DR
NEW CASTLE, DE 19720-2774

ATTACHMENT 1
KANEKA
SITE BOUNDARY

Karissa D. Hendershot